The internationalization of the Italian organic enterprises

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Jel classification codes: F10, Q13, Q17

Abstract

This paper focuses on the internationalization processes of Italian organic firms, trying to contribute to knowledge about the process characteristics and the firms' strategies. The main factors influencing export business are identified along with the critical issues and the firms' strategies. An ad hoc questionnaire was used to collect data on 71 Italian organic firms with export activities. A logistic model was applied to assess the link between the internationalization process and the firms' characteristics. Results show that farm size, external support and shared decision-making strategy, among other things, are important determinants of the internationalization process for organic firms. These factors show a different relevance depending on the export propensity. Results can provide policy indications in order to support and better target the international development of organic firms.

***Keywords**: organic enterprises, internationalization, export propensity, logistic regression.*

Résumé

Le but de cet article est d'analyser le mécanisme d'internationalisation des entreprises biologiques italiennes, en essayant de contribuer au débat sur les caractéristiques du processus et sur les stratégies des entreprises. Les principaux facteurs qui influent sur les exportations des entreprises sont identifiés, en mettant aussi l'accent sur les enjeux critiques et les stratégies des entreprises. Des données sur 71 entreprises biologiques italiennes, engagées dans des activités d'exportation, ont été recueillies à l'aide d'un questionnaire spécialement conçu à cet effet. Un modèle logistique a été utilisé pour évaluer le lien entre le processus d'internationalisation et les caractéristiques des entreprises. Les résultats montrent que la taille des exploitations, le soutien externe et la stratégie de prise de décisions partagée sont autant de déterminants importants dans le mécanisme d'internationalisation pour les entreprises biologiques. Ces facteurs révèlent une pertinence différente selon la propension à exporter. Les résultats peuvent fournir des indications de politique pour soutenir et mieux cibler le développement international des entreprises biologiques.

Mots-clés: entreprises biologiques, internationalisation, propension à exporter, régression logistique.

1. Introduction

The Italian organic products are increasingly present on the international markets. The export value reached the world record of 1.4 billion Euros in 2014 and it has grown by 9.5% from 2007 to 2014 (Willer and Kilcher, 2016). Even with respect to the whole Italian agrifood sector, organic enterprises seem to show a greater capacity to trade their products overseas (Nomisma, 2016). These figures have to be considered together with the more general growth of the global demand for organic products that hints at further business prospects on international markets.

The internationalization process of organic firms has been a largely unexplored field so far, although there is an extensive literature on this issue regarding small and medium enterprises, even in the agrifood sector. However, gaining a better understanding of these processes could be useful due to the rapidly changing scenario or because the export of these high quality products has some peculiarities, such as a greater flow of information along the internationalization process and the need to ensure the required standards set out by different certifications schemes. Identifying the factors that have a significant impact on these processes can help to define the measures to sustain the organic sector.

This work aims to contribute to the achievement of this goal, analyzing one of the internationalization options concerning the export of the Italian organic firms in relation to the internal forces and to the context. Literature on small and medium enterprises helped us to identify the factors that contribute at most to the internationalization processes. The study hypothesis was better defined during a focus group with the main stakeholders of the Italian organic sector. Then, it has been tested on data gathered by means of an *ad hoc* questionnaire submitted to a sample of Italian firms exporting some organic products through a multivariate model.

The selected products, wine, oil and pasta, are relevant components of the Italian food style and are recognized everywhere as part of the so-called *Made in Italy*[1]. It is worth noting that the *Made in Italy* agrifood represents about 71% of the Italian agrifood export (data referred to 2010-2011; Carbone *et al.*, 2015).

This paper is organized as follows: a brief review of the literature introduces some theoretical concepts and the main determinants of internationalization of small and medium enterprises. This allowed us to hypothesize the factors which influence more the export in our study, as illustrated later. Then, the methodological approach is described, specifying

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[1] The *Made in Italy* products relate to the Mediterranean diet, have a positive trade balance and have a wide recognition as Italian typical productions (Carbone *et al.*, 2015).

the sample and the models. Finally, the presentation of the analysis results ends with some remarks in order to support the international development of organic firms.

2. Some theoretical perspectives

Despite a growing interest among scholars in the internationalization of SMEs during the last decades, no specific theoretical framework has been drawn so far (Etemad, 2004; Hutchinson and Quinn, 2005). There are some theories, applied to large enterprises such as the "stage model" and the "network model" (Laghzaoui, 2009) which analyze the firm international process.

In the stage model, internationalization is a linear process, sequential and unidirectional, that consists in several steps activated by learning processes. Each stage is characterized by different levels of enterprise involvement and management of foreign operations and it depends on the resources, on the specific expertise and knowledge of the consumer markets, on the risk level and the flexibility of the adopted solution. Under this approach the concept of "psychic distance" is introduced, that is all the factors that hinder the information flow between firms and target-markets, influencing the entrepreneur's decision-making. The psychic distance is positively correlated to differences in culture, politics, language, etc., and negatively correlated to international knowledge and experience (Johanson and Vahlne, 1977).

According to the stage model, internationalization is a gradual process linked to the physical and psychic distance, oriented to the 'neighbors' markets in the early stages.

The increasing globalization and the complexity of the markets and technology have reduced the usefulness of this model for small firms (Fillis, 2008). Many studies show that the export process can begin from the business start, as in the firms called *born globals* or in the *international new ventures* (Oviatt and McDougall, 1994; Zucchella, 2002; Andersson *et al.*, 2004). This concept has been developed as part of the international entrepreneurship theory, where the entrepreneur has a central role in the internationalization process, because he has both sufficient information and expertise to evaluate opportunities in foreign markets, and the ability to create stable international relationships.

From recent empirical studies, Laghzaoui (2009) highlights the factors explaining the different behavior of firms, considering the progress and cost reduction in transport, communication and technology (Oviatt and McDougall, 1994) and the international experience of the managing team (Fischer and Reuber, 1997). Zucchella (2002) asserts that the international behavior of smaller companies responds to two distinct logics: a proximity logic and a global logic. In the former case, the enterprise extends its activities in the culturally and geographically closer markets following a gradual and sequential learning approach, so the adjustments required to the product are limited and production remains concentrated in the Country of origin. According to the global logic, the international markets are considered as a single entity, thus the enterprise identifies well-defined groups of consumers to whom it offers products with similar characteristics, overcoming the psychic distance effect.

Many factors can affect the internationalization process, first of all the limited resources of small and medium-sized enterprises. In these cases, some studies show that relationships (network links) can facilitate the export process, especially for smaller firms (Kontinen and Ojala, 2011). In the network approach (Johanson and Mattsson, 1988), internationalization is a consequence of the different relationships (formal or informal) among parties (consumers, distributors, competitors, institutions, etc.) and it mostly depends on the relationships between the entrepreneur and the institutional and social actors. Moreover the network allows the access to the foreign market resources (information, human capital, financial capital, etc.) (Bell *et al.*, 2004; Andersen, 2006) and accelerates the internationalization process[3].

Many external and internal factors affect the entrepreneurial approach to the foreign market. The target market characteristics have a great influence, like the general socio-economic factors, the market size and structure, the services availability. Also some issues related to the country of origin are relevant, acting as a deterrent or facilitating the process of firms' internationalization, such as the recognized image of the country, its promotion plans, the administrative burdens, logistics and transportation costs (Valdani and Bertoli, 2010; Lederman *et al.*, 2006; EC, 2014). The firm's perception to approach a dynamic environment can be one more relevant factor (Andersson *et al.*, 2004).

Among the internal factors, the firm's objectives represent the first element motivating the internationalization process, along with the availability of resources and the type of product to export (Valdani and Bertoli, 2010). Some other important internal factors are the firm size, the entrepreneur and staff expertise, the firm's innovation level. Moreover, empirical studies showed that the development of large exporting firms is mainly due to greater resources and higher entrepreneurial skills. Generally speaking, the skills of human resources play a significant role for the international development of the firm and, in particular, for the strategic planning capacity (Andersson *et al.*, 2004; Cerrato and Piva, 2010). Even innovations are considered as a relevant driver for internationalization, but the causal relationship is not always unidirectional: in some cases innovation (of product) is necessary for foreign expansion, in other cases the internationalization startup follows the introduction of innovation. In particular, the ICT development promotes foreign expansion, facilitating the international relationships without intermediaries. In contrast, the product price and the internationalization costs are among the internal factors perceived as impediments.

[2] The U-Model or Uppsala Model (Johanson and Vahlne, 1977) and the I-Model or Innovation-Related Internationalization Model (Cavusgil, 1980) belong to this class of models.

[3] Seccia (2004) argues that the relational approach would offer an interpretative scheme particularly suited to organic enterprises.

Among the external factors, the most significant barriers to firms' export are the lack of capital (difficult access to credit) and adequate public support, the lack of information during the start-up period, the language difficulties and cultural differences. In particular, export outside the EU is mainly hampered by risks related to payments, bureaucratic difficulties and lack of specific funding (EC, 2010 and 2011). For the Portuguese small and very small non-exporting firms, export barriers are the following: the lack of market knowledge, of qualified personnel and technical skills, sector competition, the lack of financial assistance; while exporters highlight the difficulty to manage the international path of products (Pinho and Martins, 2010).

According to the OECD (2009), the main barriers to the internationalization of small and medium-sized enterprises are limited resources and inadequate international relationships, as well as the lack of specific managerial skills. These results emphasize how the resources constraint, particularly from a financial point of view, is more relevant for smaller and younger internationalization firms.

A European survey (Fischer, 2010) has investigated the relationship between the results of the export process and food quality. Findings show that, in general, the relationship depends on the type of product and on the destination market, as well as on the exporting country. Only for Italy and France quality proves to be a significant factor for internationalization: the evaluation of a sample of Tuscan food firms, Belletti *et al.* (2009) led to highlight the positive influence of the product origin on the internationalization process that depends also on many other factors both internal and external to the enterprise, such as the kind of production system, the type and level of the supply chain organization and the reputation of products.

3. The research hypothesis

The literature review suggested the possible variables affecting the export propensity of small firms. In order to better define our study hypothesis, the stakeholders of the Italian organic sector were interviewed about the main export drivers and obstacles for organic firms. According to the experts, the small size and an inadequate firm organization are some of the most important obstacles and, in particular, firm's fragmentation and supply heterogeneity and irregularity may prevent the critical mass of products from easily accessing the international markets, especially the more structured and modern trade channels. In addition, the limited financial and human resources hamper the access to information and the acquisition of the necessary know-how and organizational and logistic facilities. These limits become more apparent in more complex and competitive markets where compliance with quality standards has to be higher.

More generally, the literature on this subject and expert discussion indicated that, among the relevant factors conditioning the internationalization process of organic firms, there are the business characteristics, the entrepreneur's experience, the firms' export behavior and their dynamism and innovative ability. Each of these factors is briefly discussed hereinafter, showing how much they have been considered in our study.

i) *Firms' characteristics*

The relationship between firm size and propensity to export is widely debated in the international literature and there is considerable evidence for a positive impact of size on export intensity (Wagner, 1995; Pla-Barber and Alegre, 2007; Olmos, 2011). Important arguments in explaining the firms' internationalization are control over resources (financial, technological, personnel) and advantages of economies of scale (Andersson *et al.*, 2004). Due to the resource constraints for small firms, large firms are more likely to compete in international markets (Bonaccorsi, 1992; Calof, 1993) and to absorb the risks associated with exporting (Wagner, 1995). In our study, we have also considered the financial autonomy of the firms, taking into account the prevailing form of financing: whether through internal resources or mainly with external resources (ordinary or subsidized credit, public funding). The link between the legal form of the firm and its propensity to export has been studied less in literature. We assumed the relationship between the legal form and the size of the firm moving, for example, from an individual firm to a corporation. Therefore we examined whether a corporation has a greater propensity to export than other legal forms.

ii) *Entrepreneurial experience*

The entrepreneur knowledge and experience are very important in determining the form and intensity of the internationalization process (Sommer, 2010), reducing the perceived risk of operating in foreign markets. In particular, knowledge of foreign markets is relevant to allocate extensive resources in external countries (Johanson and Vahlne, 1977; Andersson et al., 2004).

The entrepreneur's age may be important in explaining the internationalization of firms. Therefore, we subdivided entrepreneurs in the sample into "under and over 60 years", assuming an older age, proxy of experience in the firm, as a positive factor for export of organic products. In addition, we considered the firm's experience in organic production, assuming that a greater permanence in the sector incentives firms to look for opportunities in foreign markets with a greater chance of expansion.

In line with the objective of our analysis, we also considered the experience in exporting organic production, assuming that it has a direct relationship with the growth of export propensity. This assumption is corroborated by Eaton *et al.* (2007) who suggest that new exporters go through a learning period during which their buyers try them out on a very limited scale (Rauch and Watson, 2003). Buyers may be learning about sellers' business practices and products, while sellers learn about the reliability of their potential partners and the scope for future sales.

iii) *Export behaviour*

To explore the export behavior of organic firms, we fo-

cused on some features strictly related with the enterprise social skill for foreign sales, considering the most recent theories about the network approach to internationalization. In this respect, it is important to look at the level of decision-making autonomy related to the subject (if the export process is decided autonomously or shared with external subjects). We also assessed the importance of external support activities for the sale of organic products in foreign markets, considering the number of support organizations (associations, companies, cooperatives, chambers of commerce, ICE- Italian Trade Promotion Agency). Moreover, the choice to sell on foreign markets exclusively with the firm's brand, was taken into account. Finally, the diversification of the firm's exports, namely if the firms export products other than the main production (oil / wine / pasta), was assessed.

iv) *Dynamism and innovative ability*

The relationship between innovation and export trend has been explored in some research works that highlight how firms with a high propensity for innovation have also increased marketing capabilities both in domestic and foreign markets (Banterle *et al.*, 2011). Furthermore, many studies at firm level have investigated the relationship between innovation and export performance (Gruber *et al.*, 1967; Hirsch and Bijaoui, 1985; Schlegelmich and Crock, 1988), probing into the linkages between investments in innovation, productivity and the export dynamics (Costantini *et al*., 2007; Yan Aw *et al.*, 2008).

Our study considered both the number of investments (marketing, facilities, land, plant, etc.) and the number of innovations (process, product, organizational, marketing, logistics, etc.) introduced by the firm in the last three years.

In the following section, we shall test, through a logistic model, whether and to what extent these variables influence the internationalization of Italian organic firms.

4. The methodological approach

This study has been carried out through a survey addressed to a selected group of organic enterprises, scattered all over Italy. Selection criteria had emerged during the focus group with stakeholders who have addressed their information needs for some of the most recognized products of the Mediterranean diet (wine, oil, pasta).

The unavailability of a known reference universe about organic exporting enterprises did not allow identifying a statistically representative (random) sample, but we had to use an indirect selection process: at first, by using agricultural census data, it was possible to determine the number of enterprises which display the desired characteristics for production type (wine, olive oil, cereals) and economic size (appropriate to justify a full time work commitment).

Census data counted 5,500 farms as our universe to allocate the sample at territorial (North, Center, South Italy) and sector (wine, olive oil, pasta) level. The number of enterprises to be surveyed was fixed in 100 units, due to budget constraints, but the real sample size is 71 units[4] divided in olive oil (25), wine (35) and pasta (11) enterprises. The choice of the firms in the sample has been done using the lists of exporting units supplied by the Italian Association of Organic Agriculture (Aiab), complemented with some international fairs' directories.

The questionnaires[5] included general business information, structural and economic characteristics, marketing profile, internationalization behavior and performance, internationalization future vision. Some of the information collected through the questionnaire was used to build the variables of the empirical model in order to test the research hypotheses. We used a logistic regression to describe whether and to what extent some of the firms' characteristics, detected by the survey, can affect their propensity to export organic products. The choice to use a regression model relies on its ability to respond appropriately to the research question proposed in this analysis. This choice is supported by the widespread use of this methodology to investigate issues related to the firms' internationalization and its determinants. Andersson *et al.* (2004), for example, investigated the factors explaining the internationalization level of small firms in Sweden. Also Olmos (2011) applied a regression methodology on the survey results to analyze the determinants of international expansion of wine firms in the Rioja region in Spain. Other studies have investigated how some factors, such as investments, structural characteristics and strategies, affect exports (Todo, 2011; Farole *et al*., 2013; Cerrato and Piva, 2010).

The model can be described as follows:

$$logit[\pi(x)] = \ln \frac{\pi(x)}{1-\pi(x)} = \beta_0 + \beta_1 x1 + \beta_2 x_2 + \cdots + \beta_k x_k \qquad (1),$$

where the odds ratio ($\exp^{\beta}$) shows to what extent one unit change in the independent variable increases the ratio of probability ($\pi(x)$) that the dependent variable takes value 1 (higher export propensity in our analysis) versus the probability ($1-\pi(x)$) to take value 0 (lower export propensity).

In this paper, we used the Backward selection method to determine which of the selected independent variables were statistically significant. This procedure starts from a complete regression model that includes all the factors (independent variables), and removes the factors with the highest p-value (therefore less significant) through successive iterations. Although the small sample dimension may be a limit for statistical significance, the goodness of the model fit was tested through the main valuation methods.

5. The survey sample: descriptive analysis

The survey sample is not representative of the Italian exporting organic firms because data on the target population is not available. So special caution should be taken when inferring the analysis results to the universe.

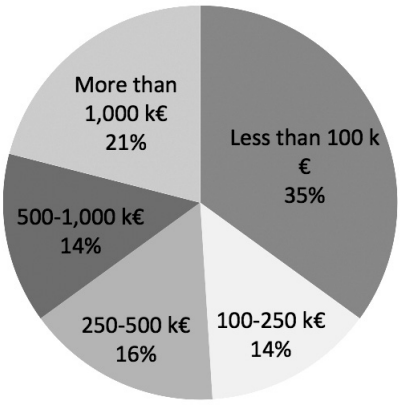
[4] The gap of 29 firms from the initial sample is due to non responses or incomplete answers.

[5] The reference year for data collection was 2013. Several questions dealt with the business of the last few years and with forecast for the next future.

The sample is distributed throughout the national territory with a prevalence of olive oil farms in southern Italy. Wineries are more present in Centre-North Italy, while pasta factories are evenly distributed.

Fifty-two percent of the cases are individual firms, with a maximum presence in the olive oil sector (68%) The survey sample is composed for over 35% of enterprises with less than € 100,000 revenue, while about 21% exceeds the threshold of € one million (mainly pasta factories). The fragmentation of production is much more evident among olive oil firms, where 64% does not exceed € 100,000.

Fig. 1 - *Break-down of surveyed enterprises by revenue class.*



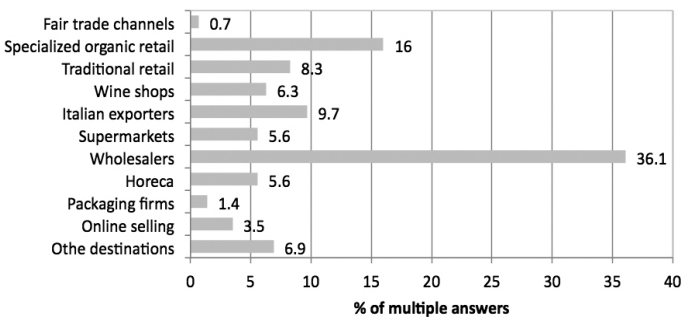
Source: Our survey data processing.

Sixty-one percent of the enterprises started exporting through fairs and other international events, and 12% used the Internet for the first contacts. Commercial intermediaries support about 90% of the enterprises, as importers in many cases: lack of knowledge of foreign markets and limited business resources could represent an obstacle to the firms' autonomy.

Exported products are sold mostly to wholesalers (36%) or shops specializing in organic products (16%) whereas the share of traditional retail (8%) and supermarkets (6%) is less significant.

The olive oil market is characterized by a greater specialization and aggregation of production, unlike wine and pasta where the role of the foreign wholesaler prevails.

Fig.2 - *Destinations of exported products.*



Source: Our survey data processing.

The survey confirmed the strong entrepreneurial individualism, stressed by the fact that 81% of the enterprises use their own brand with a peak of 92% in the case of wine. Just over 1% of the producers join a collective brand, yet almost 58% of respondents join business groups, but only 15% participate in transnational network agreements, in distribution networks (10%) or international cooperation (5%). The olive oil producers are more oriented to seek commercial partnerships in the network while for wine and pasta, associations play a very important role.

Relations with subjects that support national exports are much more frequent with professional or producers associations (28%), rather than with the Chambers of Commerce (21%), whereas the role of ICE (14%), the public national agency responsible for the promotion of foreign trade, is less important.

For about three-quarters of the respondents, export aims at business growth but other goals are relevant, such as the diversification of sales channels (52%) and customers (34%). For a significant percentage, it is a reaction to the drop in domestic demand (34%) or the search for a higher price (32%).

Olive oil exporters have suffered most from the decline in domestic consumption and prices, while it is important to diversify the export trade channels for wine and pasta firms. Finally, pasta enterprises show a limited interest in customer diversification. These objectives are set autonomously (92%) and are mainly intended for a niche market, selecting a specific target consumer (47%). A quarter of the sample will expand the market looking for new customers, but about 10% were not able to define their own strategy.

There is a certain differentiation in strategies: wine producers, and especially pasta manufacturers, focus on the expansion of their customers, while olive oil farms aim at certain types of consumers. The means used by companies to promote export are different and concurrent: joining certification schemes (in addition to organic certification), in particular origin and geographical indications (83%); the adoption of process or product innovations (39%). Sixty-two per cent made investments in 2011-2013 but less than half of respondents intend to make investments in the next three years, showing some pessimism in the medium term.

The final part of the questionnaire was devoted to a self-assessment of the current situation and future prospects, asking respondents to reflect on critical issues of the internationalization process in order to express some priority needs.

Among the enterprise's internal obstacles, the unavailability of adequate cash flow (51%) and the sale price, which is not always profitable (38%), were reported. For olive oil farms the financial difficulties are more pronounced, while for pasta producers price is the most important issue. As far as external critical issues are concerned, respondents highlight procedures necessary to produce and export (46%) and the complex relationships with Public Institutions (44%). International competition is also a huge limitation to exports for 44% of respondents, in particular for pasta producers (64%).

Tab.1 - *Reasons to export.*

Reasons	Positive Answers				Share percentages			
	Olive-Oil	Wine	Pasta	Total	Olive-Oil	Wine	Pasta	Total
Lack of domestic demand	11	9	4	24	44	26	36	34
Achieve a higher price	14	7	2	23	56	20	18	32
Enterprise growth	21	23	8	52	84	66	73	73
Sales diversification	11	20	6	37	44	57	55	52
Customers diversifications	10	13	1	24	40	37	9	34
Total Respondents	**25**	**35**	**11**	**71**	**100**	**100**	**100**	**100**

Source: Our survey data processing.

Tab. 2 - *Obstacles to exporting.*

Obstacoles	Positive Answers				Share percentages			
	Olive-Oil	Wine	Pasta	Total	Olive-Oil	Wine	Pasta	Total
Inside the firm								
difficulties for debt collection	4	8	1	13	16	23	9	18
technical difficulties, logistical, linguistic	7	14	3	24	28	40	27	34
availability of adequate cash flow	16	17	3	36	64	49	27	51
inadequate price compared to production costs	12	10	5	27	48	29	45	38
Outside								
complicated and expensive business requirements (eg. farm inspections)	10	19	4	33	40	54	36	46
inefficiency of the commercial network (eg. delivery delays)	3	5	1	9	12	14	9	13
competitive pressure from other countries on the same market	9	15	7	31	36	43	64	44
complex relationships with public authorities (eg. public funding)	9	17	5	31	36	49	45	44
Total Respondents	**25**	**35**	**11**	**71**	**100**	**100**	**100**	**100**

Source: Our survey data processing.

Tab. 3 - *Independent variables used in the logistic regression model.*

Types of hypothesis	Independent variables	Type fo variable measured	Description	Classes and scores (1/0) in the model
Firms' characteristics	Turnover	Categorical	Total firm turnover (<100 k€, 100-250 k€, 500-1,000 k€, > 1,000 k€)	Higher / lower than 250,000 €
	Financial autonomy	Categorical	Prevalent funding source (internal funds, ordinary or subsidized credit, public funding)	Internal / External funds
	Legal form	Categorical	Legal form (corporations, sole trader, Association, limited partnership, cooperative society	Corporations / other form
	Sector	Categorical	Production sector (pasta, olive oil, wine)	Pasta / oil and wine; Wine / pasta and oil
Entrepreneurial experience	Age	Categorical	Age of the holder (<40 y, 40-60 y, >60 y)	More / less than 60 years
	Start organic	Numerical	Starting year of organic production	Year
	Start Export	Numerical	Starting year of organic production exports	Year
Export strategy on foreign markets	Support organizations	Categorical	Export support organizations (associations, companies, cooperatives, chambers of commerce, ICE)	Number of organizations
	Brand	Categorical	Export of organic products exclusively through its own brand	Yes / No
	Export diversification	Categorical	Export of other products in addition to the main production (oil / wine / pasta)	Yes / No
	Decision strategy	Categorical	Decision-making autonomy in the choice of strategy to adopt in foreign markets	Total autonomy / shared with external parties
Dynamism and innovative ability	Investments	Numerical	Investments made over the last three years (marketing, facilities, land, plant, etc.)	Number of investments
	Innovations	Numerical	Innovations introduced over the past three years (process, product, organizational, marketing, logistics, etc.)	Number of innovations

Source: Our processing on survey data.

Despite the difficulties, a high percentage of respondents (94%) want to consolidate the export process, with a unanimous desire expressed by pasta producers. To that end, a support to find export partners (21% of answers) and identify better markets (17%) can facilitate internationalization.

6. Models and estimation results

The relationship between the firm's features described earlier and the export propensity was analyzed by logistic regression models. Table 3 shows the indicators developed for the representation of independent variables in the model.

As far as the dependent variable is concerned, we used two indicators of export propensity. The first is the amount of exported organic products, as a percentage of the whole organic production. In order to consider the absolute size of export that can reach significant values above all in larger firms, the export turnover of organic production was analyzed as well.

1) In **model 1**, propensity was equal to the percentage of exports over the whole organic production sold, expressed in quantities. We distinguished in the sample firms exporting more or less than 66% of organic produce, in order to identify the distinctive features of highly exporting firms, for which foreign sales represent more than two-thirds of the organic production marketed.

2) In **model 2**, we identified 'major exporters', that is firms with an annual turnover deriving from export of organic production exceeding 100,000 euro[6].

[6] Since in the literature there is not a common definition of "major exporters", in the first model, we identified them as firms selling abroad more than two-thirds of their organic production (quantity). This corresponded to about one third of the sample. In the second model we chose to use the same frequency distribution of the first model. This was defined by the threshold of 100,000 EUR of organic export value.

Tab. 4 - *Frequency distribution of dichotomous variables.*

Variable Type	Model / variable definition	Category	Frequency	Percentage share
Dependent variables (export of organic production)	1 (share of organic prod.)	< 2/3	48	67.6
		> 2/3	23	32.4
	2 (turnover)	< 100,000 Eur	45	63.4
		> 100,000 Eur	26	36.6
Independent variables	Turnover*	< 250,000 Eur	35	49.3
		> 250,000 Eur	36	50.7
	Age	< 60 years	57	80.3
		> 60 years	14	19.7
	Legal form	Corporation	13	18.3
		Other form	58	81.7
	Brand	Firm brand	58	81.7
		Other	13	18.3
	Decision strategy	Total autonomy	64	90.1
		Shared	7	9.9
	Export diversification	Diversified	27	38.0
		Not diversified	44	62.0
	Financial autonomy	Internal resouces	56	78.9
		External resources	15	21.1

* Variable not used in model 2.
Source: our survey data processing

Tab. 5 - *Significant variables in model 1.*

Variables	B	S.E.	Sig.	Exp(B)
Turnover	.850	.482	.078	2.341
Age	-2.207	1.077	.040	.110
Support organizations	.562	.283	.047	1.754
Brand	-1.470	.448	.001	.230
Negelkerke R^2		.370		
-2 Log likelihood	step 1	65.448		
	step 10	75.360		

Source: our survey data processing

Table 4 summarizes the dependent and independent dichotomous variables used in the regression models, with the relative frequency distributions.

Results of Model 1

In this model, four variables are statistically significant (Table 5), three at 0.05 level and one at 0.1 level[7], affecting positively the producers' likelihood to export more than two-thirds of organic production.

Almost 78% of the cases are corrected, classified by the model and a Nagelkerke's R^2 of 0.370 suggests quite a good fit[8].

As previously stressed, the odds ratio (Exp (B)) indicates the ratio of the conditional probability relationships. If it is greater than 1, the variable affects the entrepreneurs' likelihood of a higher export propensity positively, while when it is less than 1, it has a negative effect.

For example, the odds ratio for *Support organizations* (1.75), shows that one additional unit of support subjects leads to an increase of 1.75 times in the ratio between the probability that a firm exports more than two-thirds of organic production versus the probability that a firm does not reach this threshold.

Therefore, a larger number of support subjects for the export activity is a factor encouraging a greater export propensity, increasing the chance of belonging to the group of firms that sell abroad at least two-thirds of their organic production. Also, the entrepreneur's age is a determinant of highly exporting firms, representing a factor with the lowest value of odds ratio. When the entrepreneur belongs to the over 60 category, this reduces significantly the achievement of a high level of openness to foreign markets. Another relevant factor, affecting negatively the export propensity, is the choice to sell exclusively through its own brand. In contrast, the economic size of the firm represents an important factor positively related to export propensity: a turnover exceeding 250,000 euro greatly increases the probability of belonging to the group of firms that sell most of their organic production in foreign markets (Exp (B)> 2)

Results of Model 2

As mentioned above, in the second model we analysed the factors that best characterize major exporters of organic products. The dependent variable is defined by the value of sales on foreign markets for organic products, properly reclassified in a dichotomous variable with a 100,000 euro threshold. In this model we used the same regressors of earlier models, except for the total firm turnover. Four of these variables are found to be statistically significant; three at 0.05 level and the remaining one at 0.1 level (Table 6). Moreover, in this model more than 70% of the cases are corrected, classified by the model, and a Nagelkerke's R^2 of 0.475 suggests a good fit.

Moreover, in this model a greater number of organizations supporting the export activity represent an advantage for the

[7] The p-value (Sig. in the table) indicates the minimum level of significance for which the null hypothesis is rejected, namely the probability of making a type I error rejecting this hypothesis when it is true. In the present analysis, factors with "Sig." values less than or equal to 0.05 (5%) or 0.1 (10%) are considered to be statistically significant.

[8] Nagelkerke's R^2 values greater than 0.2 indicate acceptable performance, greater than 0.4 are good and greater than 0.5 indicate a very high performance (Backhaus et al., 2006).

Tab. 6 - *Significant variables in model 2.*

Variables		B	S.E.	Sig.	Exp(B)
Sector (pasta)		2.220	.953	.020	9.206
Sector (wine)		3.434	1.030	.001	30.998
Decision strategy		-1.230	.748	.100	.292
Support organizations		.560	.258	.030	1.750
Brand		-2.674	.959	.005	.069
Negelkerke R^2			.475		
-2 Log likelihood	step 1		62.473		
	step 9		67.160		

Source: our survey data processing

firms' internationalization. Unlike the first model, in the second model the production sector is a major factor in determining a higher/lower propensity to be a major exporter of organic products: firms that export organic olive oil have a lower likelihood to overcome the 100,000 euro threshold for revenue resulting from exports, compared to firms in wine and pasta sectors. This result is clearly related to the significant difference in economic size and income level of the sectors under investigation. By contrast, individualistic behavior, as a high export decision-making autonomy and the choice to sell abroad exclusively with its own brand, seems to reduce significantly the likelihood to overcome the 100,000 euro threshold for revenue resulting from exports. Sharing strategy decisions with other parties, compared to total autonomy, and selling the organic produce abroad with other brands, play an important role in becoming a major exporter.

7. Conclusion

Export of organic products could represent a good opportunity for Italian firms in the present evolving scenario, characterized by an expansion of the international organic market and an increasing importance of some of *Made in Italy* food products.

In literature, several studies and investigations on the behavior of food firms in foreign markets are reported, while they are very limited insights into the organic sector although it displays some specificities linked, among other things, to a very fragmented supply and to a complex system of certification schemes.

This paper aims to help understanding the export process, by analyzing the main factors which affect it with special reference to Italian small food businesses in the oil, wine and pasta sectors.

Our study reveals a rather heterogeneous firms' behavior with respect to internationalization, with a strong export propensity for some products (especially, for pasta) and 'passive attitudes' for others (oil). It also suggests a tendency to individualism, with some differences in the sectors analyzed: more inter-firm networking in the pasta sector - not only for trade purposes -, and more independent and less organized firms in the wine and oil sectors. Furthermore, the presence of enterprises at different stages of the internationalization process hinders the development of commercial relationships among parties and, particularly, among firms and coordination/support subjects, in so far as firms have different needs and require a differentiated support.

Relationships with subjects that support export activities are a determining factor to increase international trade of organic products, whereas selling solely under its own brand is a limiting factor. This remark is applicable to both definitions of major exporters used here: the first is based on the share of export of organic produce while the second is based on the revenue resulting from exports. The firm size and the entrepreneur's age are some other important factors to achieve greater competitiveness in foreign markets: bigger firms managed by younger entrepreneurs show a greater orientation to foreign markets, since they are capable of exporting significant shares of their organic produce, while an export strategy shared with other parties represents a determining factor to achieve a considerable turnover from foreign markets.

Some policy remarks can be made in the light of our results. First of all, in order to improve the internationalization process of Italian organic firms, acting on the supply side, increasing and concentrating the production volumes seem to be appropriate. The sector strategies need also to be more coordinated, by promoting effective actions that support the entrepreneurs throughout the whole internationalization process. The relationships among the various actors should be favoured, also by temporary associations, aimed at pursuing specific commercial projects, possibly with a multi-product logic, to overcome the organizational and logistics gaps that have hindered so far the internationalization of enterprises.

Finally, in order to improve the export propensity of Italian organic firms, it would be appropriate to develop and integrate the organic sector strategy into a wider strategy concerning the Italian agrifood sector, particularly as regards high quality products and *Made in Italy*.

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